

## REMARKS

Claims 2, 8-10, 33, 35-37, 40-42, 45, 46, 51, 52, 55, 56, 58, 59 and 62 have been amended. New claims 63-71 have been added. Claims 39 and 60 have been canceled without prejudice. Claims 1-26, 28-38, 40-56, 58, 59 and 61-71 are pending in the application.

New claims 63-71 are supported by the application as filed and do not present new matter. See, e.g., p. 6, line 23 - p. 7, line 2 ("The emulsion 140, however, preferably is not heated so much that proteins in the emulsion 140 coagulate to harden the emulsion 140. The warmed emulsion 142 then undergoes a second, additional heating 125 with the second heating element 120 from the initial heating temperature to a higher, second heating temperature. As a result of the second heating 125, the warmed emulsion 142 is formed into a hardened paste or casingless sausage 144. The casingless sausage 144 is formed, in part, by proteins in the emulsion hardening and setting as a result of the subsequent heating 125."); p. 9, line 24 - p. 10, line 2 ("during initial heating 115, the emulsion 140 is heated from the first temperature to an elevated temperature to produce a warm paste or emulsion 142. The emulsion 140, however, is not heated so much that it is completely cooked or hardened. In other words, the material property of the emulsion 140 is not changed and is preferably heated for a suitable time and at a suitable rate and temperature so that protein in the emulsion 140 does not coagulate or significantly coagulate."); p. 13, line 24 - p. 14, line 3. ("The warmed emulsion 142 is formed into a hardened casingless sausage 144 as a result of the second, subsequent heating 125. Because the emulsion 140 is initially heated 115 before it is subjected to rapid heating or other second heating element 120, the amount energy required to cook and denature the protein in the emulsion to produce the hardened casingless sausage 144 is significantly reduced compared to systems that heat the meat emulsion using only rapid heating sources. As a result, casingless sausage 144 can be produced more efficiently with reduced costs with the present invention.")

**I. CLAIMS 15, 23, 24, 59, 61-63 AND 82 PARTICULARLY POINT OUT AND  
DISTINCTLY CLAIM SUBJECT MATTER REGARDED AS THE INVENTION.**

Claim 33 was amended to refer to an emulsion having meat. Claims 35-37 have been amended to more particular define aspects of the first heating element. The Applicants respectfully submit that claim 38 particularly points out and distinctly claims the invention as it further defines the first heating element. Claim 39 has been canceled without prejudice, and claims 40 and 41 were amended to further define the second or rapid heating element. Claim 42 was amended to more particularly define the second heating element. The Applicants respectfully submit that claim 43 particularly points and distinctly claims the invention as it further defines the second heating element. Claims 45-46 were amended to more particularly define the chiller. The Applicants respectfully submit that claim 47 particularly points out and distinctly claims the invention since an ambient temperature is a temperature of the environment or surrounding, rather than a temperature inside a heating element or chiller. Claims 51, 52, 55 and 56 were amended to more particularly define the tube through which the emulsion passes. Claims 58 and 59 were amended to more particularly define the cutter. Claim 60 was canceled without prejudice. The Applicants respectfully submit that claim 62 has been amended to more particular define the direct heating element as using steam or water. Accordingly, the Applicants respectfully request that the rejection under 35 U.S.C. 112 ¶2 be withdrawn based on the above amendments and remark.

**II. CLAIMS 1, 2, 4, 8, 13, 15, 16, 32, 33, 35-39, 42, 43, 45, 46, 48, 58, 59, 61 AND 62  
ARE NOVEL OVER MOULE.**

Independent claims 1, 32 and 61 and respective dependent claims 2, 4, 8, 13, 15, 16, 33, 35-39, 42, 43, 46, 48, 58, 59 and 62 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,294,858 to Moule et al. ("Moule"). A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference MPEP §2131. The Applicants respectfully traverse the rejection,

however, in order to expedite prosecution of the application, the Applicants offer the following remarks.

First, the Applicants respectfully disagrees with the office action and submit that Moule fails to disclose or suggest “casingless sausage product” as called for by independent claim 1. Independent claims 32 and 61 include similar “casingless” sausage limitations.

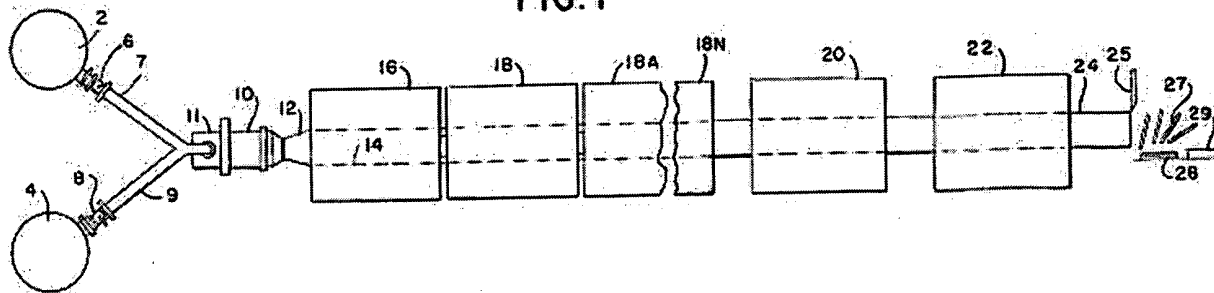
Moule, in contrast, explains that the emulsion is heated throughout to coagulate it evenly, resulting in a smooth surface finish. Then, the coagulated and cured emulsion is subjected to surface heating, which involves the use of heated vegetable oil, to form an outer skin. (Moule, col. 5, lines 1-3, lines 21-25). (See also, Moule, col. 2, lines 44-46 (“The product in initial form is an emulsion, and the method releases a product which is self-skinned bologna.”) (emphasis added)). Thus, Moule does not disclose or suggest, and teaches away from, a “casingless” sausage as called for by independent claims 1, 32 and 61 since Moule describes producing a skinned bologna.

Second, the Applicants respectfully submit that Moule fails to disclose or suggest:

“providing ... a first heating element comprising a conductive heating element ...” and “heating the emulsion initially with the first heating element [comprising a conductive heating element] from a first temperature to an initial heating temperature...” as called for by claim 1. Claims 32 and 61 call for “a first heating element, the first heating element comprising a conductive heating element...” In other words, independent claims 1, 32 and 61 call for the first heating element to be a conductive heating element, such as a heat exchanger, as called for by dependent claims 3 and 34.

Moule, in contrast, describes and illustrates a first heating element in a sequence of heating elements is a microwave unit, and the last heating element in the sequence is a heating means 20 that includes a heat exchanger, as shown in Figure 1 of the Moule patent, reproduced below:

FIG. 1



More specifically, Moule explains that an emulsified product is stored in containers 2 and 4 and liquefied food product emulsion is forced through an expander 12 to an inlet of an elongated tube 14. Microwave ovens 16, 18, 18A . . . 18N surround the tube 14. Sequentially mounted along tube 14 are heating means 20 and cooling means 22. The heating means 20 includes a heat exchanger and is used for “surface heating” of the emulsion that is already coagulated and cured by the previous microwaves and for applying vegetable oil to the coagulated and cured emulsion to form a skin on the product. More particularly, vegetable oil is heated to temperatures of 250-500°F and applied to the coagulated emulsion. (Moule, col. 5, lines 6-12 and 42-50) (emphasis added). The releasing means 24 feeds the cured and congealed product having a skin to a cooler 22 and a slicer 25. (Moule, col. 3, lines 3-6, 48-58; col. 5, lines 10-12, 42-45).

Accordingly, Moule clearly fails to disclose or suggest:

“providing . . . a first heating element comprising a conductive heating element . . .” and  
“heating the emulsion initially with the first heating element [comprising a conductive heating element] from a first temperature to an initial heating temperature...” as called for by claim 1 and the related limitations of claims 32 and 61. In contrast, Moule specifically explains that the heating means 20 that includes a heat exchanger is the final heating element in the sequence of heating elements to surface heat the coagulated and cured emulsion and to form a skin over the coagulated and cured emulsion. Thus, the Applicants respectfully submit that Moule clearly fails as a reference under §102(b).

Moreover, the Applicants respectfully submit that Moule teaches away from Applicants’ claims 1, 32 and 61 considering that a microwave oven is the first heating element in a sequence,

that a heat exchanger is the final heating element in the sequence, and that the emulsion is already coagulated and cured when it reaches the heat exchanger.

Third, the Applicants respectfully submit that Moule fails to disclose or suggest limitations of claim 1 that call for heating the emulsion initially with the first heating element “from a first temperature to an initial heating temperature...” and “heating the previously heated emulsion with the second heating element from the initial heating temperature to a second, higher heating temperature to cook the previously heated emulsion ...” Independent claims 32 and 61 include similar limitations. Moule, in contrast, explains that when the emulsion reaches the heater 20, the emulsion has already been coagulated and cured (i.e., already cooked), as previously discussed. (Moule, col. 5, lines 6-12 and 42-50) (emphasis added).

Based on the forgoing remarks, the Applicants respectfully request that the rejection of independent claims 1, 32 and 61 under 35 U.S.C. §102(b) be withdrawn. Further, the Applicants respectfully request that the rejection of respective dependent claims 2, 4, 8, 13, 15, 16, 33, 35-39, 42, 43, 45, 46, 48, 58, 59 and 62 under 35 U.S.C. §102(b) be withdrawn since these dependent claims incorporate all of the elements and limitations of their respective independent claims and add novel and non-obvious limitations thereto.

Regarding dependent claim 4, the Applicants respectfully submit that Moule fails to disclose or suggest “heating the emulsion with the first heating element further comprising heating the emulsion to the initial heating temperature from the first temperature of about 40°F”. Dependent claim 35 includes a similar limitation. In contrast, as discussed above, Moule explains that the emulsion is already cured and coagulated by the time it reaches the heater 20 in the sequential order of elements microwave and heater elements.

### **III. DEPENDENT CLAIMS 3, 5-7, 9-12, 14, 17-26, 28-31, 34, 40, 41, 44, 47, 49-56 AND 60 ARE PATENTABLE OVER MOULE.**

Dependent claims 3, 5-7, 9-12, 14, 17-26, 28-31, 34, 40, 41, 44, 47, 49-56 and 60 were rejected under 35 U.S.C. §103(a) as being unpatentable over Moule. To establish a prima facie case of obviousness of a claim under 35 U.S.C. §103(a), all the claim limitations must be taught

or suggested by the prior art. All words in a claim must be considered in judging the patentability of that claim against the prior art. MPEP §2143.03. Moreover, there must be some suggestion or motivation to modify the reference. MPEP §2143.01 The Applicants respectfully submit that Moule cannot support the rejection.

As previously discussed, Moule is clearly deficient with respect to independent claims 1, 32 and 61 and, therefore, cannot support the rejection of dependent claims under 35 U.S.C. §103(a). Accordingly, the Applicants respectfully request that the rejection of dependent claims 3, 5-7, 9-12, 14, 17-26, 28-31, 34, 40, 41, 44, 47, 49-56 and 60 under 35 U.S.C. §103(a) be withdrawn.

Further, the Applicants note that various dependent claims recite limitations that are clearly absent from Moule, and there would be no suggestion or motivation to modify the particular system described in Moule to derive Applicants' claims.

For example, dependent claim 3 calls for "providing the first heating element further comprising providing a heat exchanger." Dependent claims 34 includes a similar limitation.

Moule, in contrast, explains that the first element in the sequential arrangement of heating components is a microwave. Moule only describes a heater 20 that includes a heat exchanger as being a heating element that is the final heating element after a line of microwaves, and that the heater 20 is used to heat the surface of emulsion that is already coagulated and cured by the microwaves and to form a skin over the emulsion. (See, e.g., Moule, col. 2, lines 44-46 (skinned bologna)); col. 5, lines 23-25 (surface heating to form a skin); col. 5, lines 42-50 (vegetable oil for forming skin). Accordingly, the Applicants respectfully submit that Moule is clearly deficient, and teaches away from dependent claims 3 and 34.

As a further example, dependent claims 5-7 call for limitations related to the first or conductive heating element, including "heating the emulsion to an initial heating temperature that is less than about 120°F", "heating the emulsion to an initial heating temperature from about 70°F to about 100°F" and "heating the emulsion for about 5 seconds to about 30 seconds," respectively. Dependent claims 36-38 include similar limitations.

Moule, as previously discussed, explains that the first heating element is a microwave, not a conductive heating element, such as a heat exchanger. Additionally, Moule explains that the heater or heat exchanger 20 uses hot oil (at about 250-500°F) to heat the surface of emulsion that is already coagulated and cured. (See, e.g., col. 5, lines 6-25 (describing heating in a microwave, then surface heating); col. 5, lines 42-50 (describing temperature of oil used in surface heater)). Thus, Moule is clearly deficient and teaches away from claims 5-7 and 36-38.

Further, the Applicants respectfully submit that the Moule patent fails to disclose or suggest “reducing a size of a conduit that carries the emulsion to the first heating element” and “reducing a diameter of a tube from about 4” to about 1” as called for by claims 19 and 20. Claims 49 and 50 include similar limitations.

Moule, in contrast, explains that liquefied food product emulsion is forced through expander 12 to the inlet of an elongated tube 14. (Moule, col. 1, lines 42-48). Thus, Moule discloses an expander 12, which is the opposite of a reducing element. Further, Moule does not disclose or suggest a reducing element or reducing the size of a conduit that carries the emulsion, as called for by claims 19, 20, 49 and 50. Rather, Moule merely refers to a tube having a particular diameter. (See, e.g., Moule, col. 2, 36-37; lines 60-63; col. 5, lines 1-3).

Accordingly, the Applicants respectfully request that the rejection of claims 1-13, 25-38, 40-52, and 85-93 under 35 U.S.C. §103(a) be withdrawn.

#### **IV. NEW DEPENDENT CLAIMS 63-71 ARE NOVEL AND NON-OBVIOUS OVER MOULE.**

Claim 63 calls for “heating the emulsion initially with the first heating element resulting in the emulsion being heated but not coagulated.” Claim 64 calls for “heating the emulsion initially with the first heating element resulting in the emulsion being initially heated and partially coagulated, but not completely coagulated.” Claim 65 calls for “the previously heated emulsion being completely coagulated during heating with the second heating element to produce the casingless sausage.” New claims 66-71 include similar limitations.

The Applicants respectfully submit that Moule fails to disclose or suggest, and teaches away from, these limitations. These limitations call for the operation of a first heating element, which is a conductive heating element, such as a heat exchanger, and the degree of coagulation resulting from the conductive heating element and a subsequent, second heating element.

Moule, however, explains that a Teflon tube 14 passes through cavities 18' of a plurality of microwave ovens 16, 18, 18A . . . 18N, and that the product remains in the microwave oven to obtain complete curing, after which the product flows out of the last microwave oven to a heating means 20 that includes a heat exchanger. The heat exchanger is used to form a skin on the coagulated and cured emulsion, as previously discussed. (Moule, Figures 1 and 2; col. 4, lines 52-68; col. 5, lines 10-12, 21-25). Moule is, therefore, clearly deficient with respect to new dependent claims 63-71.

#### V. CONCLUSION.

Based on the forgoing amendments and remarks, the Applicants respectfully submit that the application is in condition for allowance and respectfully request that a timely Notice of Allowance be issued in this case. If there are any remaining issues that can be resolved by telephone, Applicants invite the Examiner to contact the undersigned at the number indicated below.

Respectfully submitted,

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